

Title (en)

CARRIER CARBON MATERIAL FOR SOLID POLYMER FUEL CELL AND CATALYST

Title (de)

TRÄGERKOHLENSTOFFMATERIAL FÜR EINE FESTPOLYMER-BRENNSTOFFZELLE UND KATALYSATOR

Title (fr)

MATÉRIAU DE CARBONE DE SUPPORT POUR PILE À COMBUSTIBLE À POLYMÈRE SOLIDE ET CATALYSEUR

Publication

EP 3276717 A1 20180131 (EN)

Application

EP 16768350 A 20160303

Priority

- JP 2015064971 A 20150326
- JP 2016056657 W 20160303

Abstract (en)

A support carbon material able to support a catalyst metal in a highly dispersed state and resistant to the flooding phenomenon and with little voltage drop even at the time of large current power generation under high humidity conditions and a catalyst using the same, specifically, a support carbon material for solid polymer type fuel cell use comprised of a porous carbon material which has a pore volume and a pore area found by the BJH analysis method from a nitrogen adsorption isotherm in an adsorption process of a radius 2 nm to 50 nm pore volume V A of 1 ml/g to 5 ml/g and a radius 2 nm to 50 nm pore area S 2-50 of 300 m²/g to 1500 m²/g and a ratio (V 5-25 /V A) of radius 5 nm to 25 nm pore volume V 5-25 (ml/g) to said pore volume V A (ml/g) of 0.4 to 0.7 and a ratio (V 2-5 /V A) of radius 2 nm to 5 nm pore volume V 2-5 (ml/g) to the same of 0.2 to 0.5 and a catalyst using the same.

IPC 8 full level

H01M 4/86 (2006.01); **B01J 23/42** (2006.01); **B01J 32/00** (2006.01); **B01J 35/10** (2006.01); **C01B 32/336** (2017.01); **H01M 4/90** (2006.01); **H01M 4/92** (2006.01); **H01M 8/10** (2016.01)

CPC (source: EP US)

B01J 23/42 (2013.01 - US); **B01J 35/60** (2024.01 - US); **C01B 32/336** (2017.07 - EP US); **C01B 32/342** (2017.07 - EP US); **H01M 4/86** (2013.01 - EP US); **H01M 4/90** (2013.01 - EP US); **H01M 4/9083** (2013.01 - EP US); **H01M 4/92** (2013.01 - EP US); **H01M 8/10** (2013.01 - EP US); **H01M 8/1004** (2013.01 - EP US); **Y02E 60/50** (2013.01 - EP)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3276717 A1 20180131; **EP 3276717 A4 20180822**; **EP 3276717 B1 20191120**; **EP 3276717 B8 20200226**; CA 2979528 A1 20160929; CA 2979528 C 20190917; CN 107210449 A 20170926; CN 107210449 B 20200814; JP 6391808 B2 20180919; JP WO2016152447 A1 20180125; US 10103398 B2 20181016; US 2018123154 A1 20180503; WO 2016152447 A1 20160929

DOCDB simple family (application)

EP 16768350 A 20160303; CA 2979528 A 20160303; CN 201680008785 A 20160303; JP 2016056657 W 20160303; JP 2017508157 A 20160303; US 201615561440 A 20160303